Thermophysical Properties of Alkylene Carbonates

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Several thermophysical properties of ethylene carbonate ($C_3H_4O_3$), propylene carbonate ($C_4H_6O_3$), butylene carbonate ($C_5H_8O_3$) and glycerine carbonate ($C_4H_6O_4$) were studied experimentally over a range of temperatures. Vapor pressures were measured from 1 torr to ambient pressure using Washburn-type ebulliometer. Liquid densities were determined by vibrating tube densimeter method at atmospheric pressure. Differential scanning calorimetry was utilized for measurements of melting point and isobaric heat capacity. Experimental data, correlations and comparison with the literature values are presented.